

ABSTRACT

An array of auxiliary magnets is disclosed that is positioned along sidewalls of a magnetron sputter reactor on a side towards the wafer from the target. The magnetron preferably is a small, strong one having a stronger outer pole of a first magnetic polarity surrounding a weaker outer pole of a second magnetic polarity and rotates about the central axis of the chamber. The auxiliary magnets preferably have the first magnetic polarity to draw the unbalanced magnetic field component toward the wafer. The auxiliary magnets may be either permanent magnets or electromagnets.